

DECEMBER 4, 1922

AVIATION

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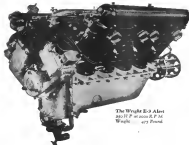
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Vol. XXII

DECEMBER 4, 1922

No. 25

AVIATION

LAMAR DORR
EDITOR
VIRGIL E. CLARK
EDWARD F. WARRER
RALPH H. UHLEN
CORRESPONDENT

Government Aid for Commercial Aviation

PRESENTED EARLIER in his message to Congress on shipping made the following significant statement: "If industry through our tariffs. We have aided the construction of railroad roads and the improvement of inland waterways. We have aided reclamation and irrigation and the development of water power. We have loaned far and given us participation of harbors. We have expended millions in investigation and experimentation to promote a means of benefit, through a limited few and the direct business. We have loaned hundreds of millions to promote the marketing of American goods. It has all been consumable and lightly worn while."

He might have gone further, had he wished to show the country that the history of transportation facilities has been the greatest factor in the growth of its industrial development. The pioneer railroads not only received land grants that made the transportation lines possible, but have had legislative support and subsidies of a character that made them as passenger profitable. Shipping has been given government aid in a number of ways. The light-house and life saving services have aided in making sea going less hazardous. Huge appropriations have been made for the improvement of harbors, rivers and lakes. Government inspection and control has been repeatedly conducted.

And more recently with the overwhelming flood of automobiles, both of the pleasure and industrial types, the government has given aid of the most direct kind. It is reported that there will be spent for speed limiting during the present year a sum equalling one hundred dollars for each car that is operated in this country. Over a period of years, government aid bestowed in this form becomes so large that it is one of the major expenditures of our people.

Aircraft need have government aid or subsidy for a long time as undeveloped means of transportation. It is not possible to operate air transportation generally without government aid in the form of landing fields, meteorological service, highly trained, reliable and available regulation. And until the federal, state and municipal authorities decide to treat aircraft with the same broad consideration that they have granted the railways, ships and automobiles, there will be no such thing as commercial aerial transportation.

But, going even further than indirect government aid, there is an imperative reason for every country to aid in the establishment of air routes and have them have regularity. Military needs have always existed as a means of national safety. Air transportation will have to be fostered for similar reasons.

One of the great problems of the next war will be air personnel and aircraft equipment. Neither can be improved if we lack a potential organization capable of rapid expansion in case of war. The pilots of the world will

see now four years older than when they last saw action. In a few years they will no longer constitute a national reserve, for it was necessarily shown in the late war that the fighting period of service pilots is at the most eight years. Hence the only economical method of having a reserve of trained aviators is to foster commercial aviation.

While aircraft for transportation purposes differ to some extent from those used for war, the most important requirement for national security is an industry having the technical staff and mechanical equipment, which will enable it to take up war time production on instant notice. Other countries have recognized this fact and are giving direct government aid to aviation.

The great air lines of Europe are all the result of government aid. Great Britain is contributing \$1,000,000 to encourage civil air transport. The air industry pays approved air lines a sum equal to 25 per cent of their gross receipts, paying bonuses of 25 per cent for every passenger carried and three pence for each pound of express transported. The London-Paris line receives £10,000 for 600 trips; the London-Colonia line receives £20,000 for 600 trips and the London-Amsterdam-Berlin line will get £20,000 for 600 trips. On these three lines Great Britain will expend half a million dollars so that these air routes will be kept open.

In France, government aid is based on a system not based in terms of a detailed explanation here, but its main features are a "construction subsidy" which equals one-half the purchase price of each modern transport airplane, and promotes paid for commercial efficiency.

Germany, Poland, Czechoslovakia, Russia and Romania—among others—are making the operation of aircraft lines possible through government aid. In fact, there can be no possible commercial aviation on a large scale without government aid both direct and indirect.

Lessons of European Gliding Meets

THE article by Edward F. Allen on "Three European Gliding Meets" which appeared in the last issue will generally be welcomed by Americans interested in gliding and soaring flight.

Before becoming interested in gliding flight, Mr. Allen was a distinguished test pilot of the Army Air Service. Last summer he added to his accomplishments by piloting the only American entry in any of the European airplane meets, and he has since had the opportunity of obtaining first hand information on the present state of the art in Europe. All this gives special value to his observations as to what is a good gliding term and what is a good airplane. His remarks on the general organization of airplane competitions are also highly interesting, and it is to be hoped that the experience of the forthcoming American gliding meets will lead his suggestions as to how the art of gliding can best be fostered.

Why the Mooring Mast

Editor, AVIATION—

I was rather interested in your remarks under the heading as above published in your number dated Aug. 21, and most frankly admit that I disagree with you actively on this subject. Mast mooring is no opinion in the only logical system for mooring aeroplanes, as it possesses the following very important advantages: (1) Cleanliness; (2) Maximum ground staff; (3) Maximum strain on the ship itself; (4) Ease in which ship may be ballasted up and re-ballasted; (5) Can be moored aeroplanes without any specially prepared ground; and (6) Ship may be moored thus with very little buoyancy. In fact, the beam can actually be heavy.

Discrepancy as follows can be seen as summarized above and comparing them as applied to ground mooring, the advantage is very likely on the side of mast mooring:

(1) Preparation of the ground and the laying of moorings would be liable to become chaotic with dirt. The maintenance of such a track would be expensive.

(2) In order to ground the ship and position her over the trolleys on the mooring platform, which 1 assume would be used in conjunction with fixed ground moorings, a space probably 400 feet would be required. This in itself is a serious disadvantage over mast mooring which can be accomplished with a ground staff of not more than 50.

(3) That the main stream of the ship, once on the ship, which moored are considerably lightened by mast mooring is obvious. The forces acting on the ship at the mooring mast are as follows: (a) The vertical lifting force composed of the weight left due to the buoyancy of the ship and the dynamic lift due to the angle at which the ship is pitched; (b) The backward force caused by the wind pressure on the hull and nose.

With reference to (a) these forces are not a problem because of the greater freedom of movement which mast mooring provides. In ground mooring this is not possible. You have friction of the trolleys, in lateral movement. The vertical lifting forces are often in excess, but are resisted by ground tines from the trolleys in some structural part of the ship. Therefore, these stresses are taken on the ship, which even in moderate winds can become heavy.

Discrepancy as follows with your remarks which you state that there is little vertical component in the wind near the ground. It is at this point near the ground that the air becomes highly disturbed.

(4) The question of ballasting up and re-ballasting presents a difficulty in ground mooring unless it could be done through the nose of the ship as in mast mooring. This would necessitate a considerable amount of work in the center of the mooring platform. Therefore, in this respect, the advantage is seen over mast mooring.

It would be well to mention the difficulty that might be met in mast mooring, which is the fact that the ship is ground moored, by means of the change in static lift due to changes in temperature that occur between day and night. If it was found advantageous to leave the ship light while moored, sudden change of ballasting would necessitate a great amount of work which is therefore very inconvenient. If, however, it was found reasonably safe to keep the ship slightly heavy so that under no conditions of temperature change, could the ship become light, then it would be probably convenient to keep her in that state.

(5) No comments necessary.

(6) Mast mooring under ground mooring would probably be less than ship here. (See item 4).

You will see that I am an advocate for the mast mooring in connection with ground mooring, the most satisfactory method I have ever described is that of Mr. Tilden's. But his method does not get into the difficulty of positioning which means a large ground staff.

R. H. PHILLIPS
Philadelphia, Pa.

Farman A2 Observation Airplane

The French government has just ordered for a considerable number of these machines for use in the Army as a reconnaissance machine.

The A-2 is very easy to fly and may be landed on an ordinary emergency field without danger. At the same time, it is extremely maneuverable for manual work and is of particular value in aerial work in all its parts, especially the under-coverage. As much as possible the parts are interchangeable and repairs are very easily made.

Equipment—Machine is equipped to carry a pilot and observer. They carry dual control. Visibility is perfect in all directions. It is possible to vary the equipment carried, such as cameras, wireless apparatus, signaling machine, etc.

Great difficulties were overcome in producing this machine, as it was necessary in order to conform with the program



Farman A2 observation airplane. A2 model. Submarine A2 model.



The Farman A2 four-engine observation-coast airplane of the French Air Service.

reposed, to obtain performance of considerable efficiency at the same time maintaining sufficient stability.

It is usual to start from existing machines and to increase their stability and power and to make improvements. It is assumed that the continued increasing of power and weight results in a much greater difficulty of piloting and maneuvering and performance, of two machines with the same wing and the same speed, the lighter has always an indefinable superiority over the heavier one. The Farman engineers considered that the only acceptable solution to this problem would be the use of the principle of construction in order to arrive at a minimum weight and the choice of a motor light enough to avoid losing the advantages gained in the constructive details of the airplane itself.

Research covered their efforts and after more than a year of study and research, they produced a machine of which the principal characteristics are as follows—

Characteristics

Type, Single engine tractor biplane
Motor, Salmson 25, 260 hp.
Pilot and passenger seated behind the wings
Under-coverage with jacked axle
Flexible tail-act
Wing span, 29.60 ft.
Useful load, 1,550 lb.
Lifting surface, 405 sq. ft.
Wing span, 39 ft.

The following performance figures were officially established by the Service Technique De L'Aeronautique—

Ground speed, 320 mph.
Speed at 5,000 ft., 215 mph.
Speed at 10,000 ft., 177 1/2 mph.
Speed at 15,000 ft., 150 mph.
Climb, 5,000 ft. in 22 sec.
Climb, 10,000 ft. in 32 sec.
Climb, 15,000 ft. in 38 sec.
Climb, 20,000 ft. in 48 sec.

These official tests were made with a useful load of 1,150 lb.

An Eagle Passes

If ever a man seemed really dead, it was that English officer of the Royal Flying Corps, Major M. G. Godfrey. From the time he was a boy at school, throughout the years of service he gave to an honored profession, during the trying period of fighting days overseas, and afterward when he stayed in perfect peace when he could no longer be used in war, he was just the same. He was not a man who was easily shaken or disturbed. It is not necessary to have known the man to be moved and the words of his biographer, no the son and the son, tell the story of his life and the nature of the man—a character without fear and without reproach.

He was decorated by the governments of Great Britain, France and the United States because he was without fear and as dead in battle as he was the peace of men and the thanks of nations. In peace he also showed he was only a boy when he saved the lives of many men. In peace he remained in service; he was the first American naval officer to land on a moving ship. Yet the things he did were not done from sheer bravado, they were done for duty, but they were in the face

of duty, duty which he undertook with the seriousness of a character of his own, though he could not escape from duty and the boy's love of duty.

Whatever hazards attended him, whether meeting men who would shoot, whether flying and fighting in France, whether receiving a first classed with death, or making to land his ship in the English Channel, his own mind and his own courage on the control, his eyes ahead, he could not be shaken and he was a character of his own.

He was not a man who lived and lived and repaid and died—a gentleman without life, he died, no, he died, as an eagle would die, eyes first, wings outstretched in flight. Such was the case of Major Godfrey, the Canadian Canadian man who was a man of his own, and his own mind and his own courage on the control, his eyes ahead, he could not be shaken and he was a character of his own.

Aero. Eng. Soc. of M. I. T.

The Aeronautical Engineering Society of the Massachusetts Institute of Technology, which held and gave the only glider experiment in the United States at the International Flying Contest in France during the past summer, held its first meeting of the term on Wednesday, Nov. 23.

John C. Kappan and Harry C. Kessler, members of the M.I.T. glider team, spoke concerning their experiences in taking the glider to France and flying it in the contest. This was the first opportunity for the society to hear at first hand the results of the flight from the men who actually managed the undertaking.

Prof. E. P. Warren, who toured Europe last summer making a study of aerobics, showed, gave a talk on the gliding contest, illustrated with lantern slides and moving pictures of the French and German competitors and the M.I.T. glider. He emphasized the fact that the glider was designed and built for the contest in a remarkably short length of time, and was shipped to France and the first mention in action of the glider in the contest was the fact that it was the only glider that up to the time the M.I.T. glider was put out of commission by an accident which was no fault of the machine or pilot, it was the first time in the air was three times as long as that of all other competitors combined.

The Aeronautical Engineering Society is holding a competition for the design of a glider, in which all M.I.T. students will be eligible to submit designs, and the winner will be awarded a valuable trophy. It has not been decided whether the society will construct another glider this year, but it hopes to continue to promote and encourage the science of gliding and soaring flight as far as possible.

Nepal, Oman and the United States

Many countries have national laws regulating the operation of aviation aircraft and designed to decrease flying accidents due to aviation aircraft, something is a survey forwarded by the Aeronautical Chamber of Commerce of America to the Government of Germany. Twenty-six nations which joined the International Air Convention drawn up following the Aviation, have established national legislation providing for safe and safe flying within their own borders, the Chamber then has written other nations have various kinds of national air laws.

"Of the remaining countries on earth," says the Chamber, "which have not yet passed air laws binding to safeguard the passengers and the lives and property of the people, include Abyssinia, Persia, Bhutan, Nepal, Oman and the United States."

The Warrenton Bill, providing for a bureau of civil aeronautics in the Department of Commerce, passed the Senate last February. The House has yet taken no action.

Aeromarine Opens Southern Air Route

The first airmail flight of the 1932-1933 season between Key West and Havana was made Nov. 8 by the Aeromarine Flying boat Santa Maria. On the same date, the Santa Maria carried eleven passengers, including C. F. Redden, president of the Aeromarine Airways, Inc., and Maj. D. L. Smith, ground manager. On their arrival in Havana, the party was met by an expedition of the Cuban government. The president of Cuba had designated the Cuban Secretary of War, Secretary of the Navy and the Secretary of State as his representatives and after the arrival of the Santa Maria the officials, accompanied by C. H. Barr, American Consul General in Havana, made a flight in the Santa Maria above Havana and landed Mary Castle several times.

Mr. Redden made public in Havana the fact that the Aeromarine Company plans to inaugurate a regular schedule from New York down to Miami in the winter of 1933.

The Santa Maria is the queen ship of the Aeromarine Airways' Black Duck Fleet. During this past summer she was one of a fleet of four other flying boats operated between Cleveland and Detroit on a double daily schedule. At the close of the season on the Great Lakes, she was flown to New York via Lake Erie, Lake Ontario, the St. Lawrence River, Lakes Champlain and George and the Hudson River.

After refueling in New York, she proceeded south via Atlantic City, Mexico and Miami to Key West. Since the Santa Maria went into commission she has flown over 50,000 miles. The Aeromarine Airways is now operating a fleet of flying boats in the South this winter. In addition to the daily service between Key West and Havana flights will be made regularly between Miami and Havana in the Bahamas. The distance of 181 miles to Miami is made in 55, by against 20 for its distance.

Maynard Benefit Meet

The Edwin Maynard Benefit Meet held at Carline Field, Garden City, Nov. 18, through the cooperation of the Carline Aeroplane Club and the Air Service, the Air Mail Service, the Aeronautical Chamber of Commerce and members of the American Legion netted about \$1,500 which will be turned over to Mrs. Maynard. The exact sum realized will be known after the final audit of the tickets distributed for sale.

London Newspapers by Air

A total of 374 tons of newspapers were recently carried from London to the continent in one of the air routes of the London Express daily. The newspapers represent one-half the total cargo of the British, French and Dutch aircraft.

Aircraft squadrons, divisions, or sections may be assigned to landers, carriers, or other vessels, or they may be organized as separate units to operate independently of any particular vessel or shore station.

Aircraft organizations assigned to a vessel shall be an integral part of the organization of that vessel. Aircraft organizations assigned to a shore station shall be an integral part of that command, under the direction of, and responsible to, the commanding officer thereof.

Aircraft organizations assigned to and quartered on board vessels, tenders, or other floating vessels shall constitute the air department of such vessel. Aircraft organizations assigned to and quartered on board other vessels of the fleet shall constitute a part of the gunnery department of such vessel.

When aircraft organizations or parts of organizations are temporarily based on any regularly commissioned vessel of the Navy for any purpose they shall be recorded during such time as being attached to that vessel.

The senior naval aviator of the Navy or Marine Corps attached to an aircraft squadron temporarily based on shore to proper authority shall have the same authority and responsibility over that unit as is vested in the commanding officer of a regularly commissioned vessel, and authority to order summary and deck court-martial and to impose the punishment authorized by Article 20 of the Articles for the Government of the Navy upon any personnel under his command is granted such naval aviator.

Aerial Target Practice—According to the New York Times, but less than twenty-five shots fired at a target towed through the air by a seaplane were reported on Nov. 23 by observers to have been made by anti-aircraft guns at Fort Monmouth during the joint maneuvers of the coast artillery and air service. The target 14 ft. long and 3 ft. in diameter, was attached to the plane by a 3,500 ft. tow line.

The shots were fired at an average range of 3,000 yd., while "plane and target were moving at altitudes between 5,000 and 7,000 ft. During part of the test machine guns at Fort Monmouth were in the firing, but observers said the range was too long for them.

Lieutenant Patterson of the Hingham Roads naval air station is said to have piloted the plane.

Deck Landing Practice at Sea—Naval Air Station—Following the success of the deck landings made on the aircraft carrier Langley as a result of preliminary practice in landing on a destroyer docked at Hatteras Beach, the second air station at Sea Pines, Calif., will also be equipped with a dummy deck.

This deck will be the exact replica of the decks of the U. S. S. Langley and airplane carriers under construction, 300 ft. in length, 125 ft. in breadth. Arresting devices will also be installed by reason of which a plane landing will be brought to a full stop before reaching the end of the run-way.

Naval Orders—Lieut. William P. Brown, det. Off. Asst. General Inspector of Naval Aircraft, East. Dist., Garden City, L. I., to Nav. Inspector of Air Material, Curtiss Aeroplane & Motor Corp., Buffalo, N. Y.

Lt. J. C. Connelley, 2d Lieutenant, det. Nav. Aircraft Factory, Philadelphia, to U. S. S. Utah.

Ensign Edgar W. Stoppard, det. U. S. S. Wright, to Bu. Aero., Navy Dept.

Comdr. Theodore G. Ellyson, det. Bu. Aer., Navy Dept., to U. S. S. Naval Station to inspect.

Lt. J. C. Elford G. Elford, det. Aircraft Bn., Aviation Fleet, to Destroyer Bn., Pacific Fleet.

Lt. Comdr. Mary A. Mather, det. command Nav. Air Sta. Annapolis, D. C., to Bu. Aer., Navy Dept.

Lieut. J. C. Elford G. Elford, det. Nav. Air Sta. Annapolis, D. C., to Aircraft Bn., Pacific Fleet.

Comdr. Albert W. Marshall, det. Chief of Staff, Destroyer Bn., Pacific Fleet, to Comdr. Aircraft Bn., Pacific Fleet.

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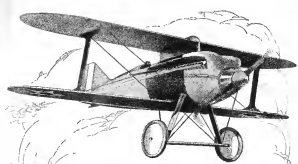
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The high speed for which they were designed requires that special attention be directed toward maintaining this finish. In the Connecticut Valley was selected. Not only did it serve to lessen the resistance and contribute to the speed, but at the same time the two Army-Curtis Races which won first and second places were won by the most recently finished planes in the race.

Yours very truly,
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Faster than Human ever flew—and Valspar helped!

New honors for Curtiss Planes! First four places in the Pulitzer Trophy contest, with the winner averaging 265 M.P.H. over the 150 mile course—a new world's record. That was October 14th at Selfridge Field, Michigan.

October 16th another record was made: Lieut. R. L. Maughan, winning pilot in the Pulitzer contest, estimated the terrific speed of 248.5 M.P.H. over the one-kilometer course. Two days later Brigadier General MacCall set an official world's record of 224.05 M.P.H. on the same course.

How important a part Valspar played in these victories is disclosed by the accompanying letter from the Curtiss Aeroplane and Motor Company, 100% waterproof, weather-proof and waterproof, Valspar is in a class by itself. It has no equal.

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Can You Refuse?

EVERYWHERE you see the ravages of Consumption. There were 1,000,000 cases and 100,000 deaths from this scourge last year. But if all that see these words will help,

It can be stamped out

Buy the Tuberculosis Christmas Seals where you see them sold. (A picture of one is below.) The revenue from these sales is devoted to a great organized campaign against Tuberculosis. This campaign gives the service of doctors and nurses to millions of the stricken. It organizes local associations. It carries on educational work in schools and offices and factories.

You cannot help in a nobler work. Join it. Buy the seals.



**Stamp Out Tuberculosis
with Christmas Seals**

The National, State, and Local Tuberculosis Associations of the United States

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